ABSTRACT OF THE DISCLOSURE

An apparatus for controlling the resistivity of ultra pure water, including a housing to house a gas permeable membrane, an inlet for untreated ultra pure water which communicates with an ultra pure water path, and an outlet for resistivity-controlled ultra pure water which communicates with the ultra pure water path. The gas permeable membrane divides the interior of the housing into the ultra pure water path and a mixed gas path. A mixed gas is selected from the group consisting of a mixed gas including carbon dioxide and a gas having a lower resistivity controlling ability than carbon dioxide and a mixed gas including ammonia and a gas having a lower resistivity controlling ability than ammonia. The gas permeable membrane is capable of supplying carbon dioxide or ammonia to the untreated ultra pure water at a concentration equal to or more than 90% of the equilibrium concentration.